MEDICAL COVERAGE POLICY	
SERVICE: Neuromuscular Stimulation	
Policy Number:	**251**
Effective Date:	**02/01/2021**
Last Review:	**12/17/2020**
Next Review Date:	**12/17/2021**

Important note:
Unless otherwise indicated, this policy will apply to all lines of business.
Even though this policy may indicate that a particular service or supply may be considered medically necessary and thus covered, this conclusion is not based upon the terms of your particular benefit plan. Each benefit plan contains its own specific provisions for coverage and exclusions. Not all benefits that are determined to be medically necessary will be covered benefits under the terms of your benefit plan. You need to consult the Evidence of Coverage (EOC) or Summary Plan Description (SPD) to determine if there are any exclusions or other benefit limitations applicable to this service or supply. If there is a discrepancy between this policy and your plan of benefits, the provisions of your benefits plan will govern. However, applicable state mandates will take precedence with respect to fully insured plans and self-funded non-ERISA (e.g., government, school boards, church) plans. Unless otherwise specifically excluded, Federal mandates will apply to all plans. With respect to Medicare-linked plan members, this policy will apply unless there are Medicare policies that provide differing coverage rules, in which case Medicare coverage rules supersede guidelines in this policy. Medicare-linked plan policies will only apply to benefits paid for under Medicare rules, and not to any other health benefit plan benefits. CMS's Coverage Issues Manual can be found on the CMS website. Similarly, for Medicaid-linked plans, the Texas Medicaid Provider Procedures Manual (TMPPM) supersedes coverage guidelines in this policy where applicable.

SERVICE: Neuromuscular Stimulation

PRIOR AUTHORIZATION: Check PA tool for prior authorization requirements.

POLICY:

For Medicaid plans (HCPCS codes E0745, E0762 and E0764)

Neuromuscular Electrical Stimulation (NMES) application and the rental or purchase of devices and conductive garments are a benefit of Texas Medicaid when medically necessary. Requests for NMES must include documentation of:

1. A spinal cord injury or disuse atrophy
2. Is refractory to conventional therapy.

NMES for Muscle Atrophy

NMES may be reimbursed when used to treat muscle disuse atrophy when brain, spinal cord, and peripheral nerve supply to the muscle is intact, as well as other non-neurological conditions.

Examples of NMES treatment for non-neurological conditions include, but are not limited to, casting or splinting of a limb, contracture due to scarring of soft tissue as in burn lesions, and hip replacement surgery until orthotic training begins.

NMES for Walking in Clients with Spinal Cord Injury (SCI).

NMES/Functional Electrical Stimulation (FES) is a benefit for SCI clients who have all of the following characteristics:

- Clients with intact lower motor unit (L1 and below) (both muscle and peripheral nerve).
- Clients with muscle and joint stability for weight bearing at upper and lower extremities that can demonstrate balance and control to maintain an upright posture while standing independently for at least three minutes.
- Clients who demonstrate brisk muscle contraction to NMES and have sensory perception electrical stimulation sufficient for muscle contraction.
- Clients who possess high motivation, commitment, and cognitive ability to use such devices for ambulation, as established by provider interview and documentation.
- Clients who can transfer independently.

- Clients who can demonstrate hand and finger function to manipulate controls.
- Clients with at least six-month post recovery spinal cord injury and restorative surgery.
- Clients with hip and knee degenerative disease and no history of long bone fracture secondary to osteoporosis.

IN ADDITION, clients must have completed a training program which consists of at least 32 physical therapy sessions with the device over a period of three months.

The trial period of physical therapy will enable the treating physician to properly evaluate the client's ability to use NMES/FES devices frequently and for the long term.

Physical therapy necessary to perform this training must be directly performed by the physical therapist as part of a one-on-one training program. The goal of physical therapy must be to train SCI clients on the use of NMES/FES devices to achieve walking, not to reverse or retard muscle atrophy.

The purchase of a NMES device is limited to once per five years, and may be reimbursed when there is documentation of successful test stimulation (during rental or other therapeutic period) that showed improvement as measured by the following:

- A demonstrated increase in range of motion
- The client's improved ability to complete activities of daily living or perform activities outside the home.

Garments may be considered for reimbursement during the purchase period when medically necessary

NMES and FES used for walking is NOT a benefit in SCI clients with any of the following:

- Cardiac pacemakers
- Severe scoliosis or severe osteoporosis
- Skin disease or cancer at area of stimulation
- Irreversible contracture
- Autonomic dysflexia

Please refer to the TMPPM for complete details regarding garments and supplies.

For Medicare plans (HCPCS code E0764)

Coverage of NMES to treat muscle atrophy is limited to the treatment of

1. disuse atrophy where nerve supply to the muscle is intact, including brain, spinal cord and peripheral nerves,
2. other non-neurological reasons for disuse atrophy.

Some examples would be casting or splinting of a limb, contracture due to scarring of soft tissue as in burn lesions, and hip replacement surgery (until orthotic training begins).

Coverage for NMES/FES for walking will be covered in SCI patients with **ALL** of the following characteristics:

1. Persons with intact lower motor units (L1 and below) (both muscle and 1. peripheral nerve);
2. Persons with muscle and joint stability for weight bearing at upper and lower extremities that can demonstrate balance and control to maintain an upright support posture independently;

3. Persons that demonstrate brisk muscle contraction to NMES and have sensory perception electrical stimulation sufficient for muscle contraction;
4. Persons that possess high motivation, commitment and cognitive ability to use such devices for walking;
5. Persons that can transfer independently and can demonstrate independent standing tolerance for at least 3 minutes;
6. Persons that can demonstrate hand and finger function to manipulate controls;
7. Persons with at least 6-month post recovery spinal cord injury and restorative surgery;
8. Persons without hip and knee degenerative disease and no history of long bone fracture secondary to osteoporosis; and
9. Persons who have demonstrated a willingness to use the device long-term.

IN ADDITION, coverage of NMES/FES used to enhance the ability to walk, is limited to SCI patients who have completed a training program which consists of at least 32 physical therapy sessions with the device over a period of three months. The trial period of physical therapy will enable the physician treating the patient for his or her spinal cord injury to properly evaluate the person's ability to use these devices frequently and for the long term. Physical therapy necessary to perform this training must be directly performed by the physical therapist as part of a one-on-one training program. The goal of physical therapy must be to train SCI patients on the use of NMES/FES devices to achieve walking, not to reverse or retard muscle atrophy.

For ALL plans:

Functional neuromuscular electrical stimulation (FNMES) is considered experimental, investigational and/or unproven as a technique to restore function following central nervous system, or peripheral nerve, damage or injury. This includes, but is not limited to, its use in the following situations:

- To provide upper extremity function in patients with nerve damage (e.g., spinal cord injury or post-stroke);
- To improve ambulation in patients with footdrop caused by congenital disorders (e.g., cerebral palsy) or nerve damage (e.g., post-stroke, or in those with multiple sclerosis);
- As a technique to provide ambulation in patients with spinal cord injury.

SWHP/FirstCare considers FES and NMES experimental and investigational for all other indications because its effectiveness for indications other than the ones listed above as medically necessary has not been established

SWHP/FirstCare considers the FES exercise devices such as the FES Power Trainer, ERGYS, REGYS, NeuroEDUCATOR, STimMaster Galaxy, RT200 Elliptical, RT300 FES Cycle Ergometer (also referred to as a FES bicycle), RT600 Step and Stand Rehabilitation Therapy System, and SpectraSTIM to be exercise equipment. Most plans exclude coverage of exercise equipment. In addition, these stationary exercise devices are considered experimental and investigational to prevent or reduce muscle atrophy in upper and lower extremities in individuals with hemiplegia or quadriplegia and for all other indications.

OVERVIEW:

Without sufficient exercise, muscles atrophy, losing strength and mass. This process can lead to significant loss of function in limbs that are immobilized after injuries or surgery. Muscles can also lose strength in limbs that have impaired motor control due to stroke or other neurological injury. To prevent atrophy in these situations, muscles can be exercised by applying electrical pulses through electrodes attached to the skin surface, a technique known as neuromuscular electrical stimulation (NMES). Specific applications of this treatment include: (1) treating or preventing shoulder subluxation after stroke-related paralysis; (2) regaining wrist or swallowing function after partial paralysis due to stroke or spinal cord injury; (3) strengthening leg muscles after hip fracture, hip replacement, or surgical repair of the anterior cruciate ligament (ACL); (4) providing exercise for patients with severe physical limitations due to osteoarthritis (OA), chronic heart failure (CHF), or chronic obstructive pulmonary disease (COPD); and (5) improving motor function in patients with cerebral palsy (CP).

CODES:

Important note:
CODES: Due to the wide range of applicable diagnosis codes and potential changes to codes, an inclusive list may not be presented, but the following codes may apply. Inclusion of a code in this section does not guarantee that it will be reimbursed, and patient must meet the criteria set forth in the policy language.

CPT Codes:	64550 Application of surface (transcutaneous) neurostimulator 64565 Percutaneous implantation of neurostimulator electrode array;
CPT Not Covered:	
HCPCS Codes	**Medicare lines only:** E0764 Functional neuromuscular stimulation, transcutaneous stimulation of sequential muscle groups of ambulation with computer control, used for walking by spinal cord injured **Medicaid lines only:** E0731 Form-fitting conductive garment for delivery of TENS or NMES E0745 Neuromuscular stimulator, electronic shock unit E0762 Transcutaneous electrical joint stimulation device system, E0764 Functional neuromuscular stimulation, transcutaneous stimulation of sequential muscle groups of ambulation with computer control, used for walking by spinal cord injured A4556 Electrodes A4557 Lead wires A4595 Electrical stimulator supplies
HCPCS Codes Not covered	**Not covered except as noted above:** E0744 Neuromuscular stimulator for scoliosis E0762 Transcutaneous electrical joint stimulation device system, E0764 Functional neuromuscular stimulation, transcutaneous stimulation of sequential muscle groups of ambulation with computer control, used for walking by spinal cord injured E0770 Functional electrical stimulator, transcutaneous stimulation of nerve and/or muscle groups
ICD10 codes:	M62.50-M62.59 Muscular wasting and disuse atrophy, not elsewhere classified
ICD10 Not covered:	

CMS: NCD 160.12, LCD L34821

POLICY HISTORY:

Status	Date	Action
New	08/07/2018	New policy
Reviewed	11/21/2019	No changes
Reviewed	12/17/2020	Policy rewritten to include Medicaid and Medicare

REFERENCES:

The following scientific references were utilized in the formulation of this medical policy. SWHP/FirstCare will continue to review clinical evidence related to this policy and may modify it at a later date based upon the evolution of the published clinical evidence. Should additional scientific studies become available and they are not included in the list, please forward the reference(s) to SWHP/FirstCare so the information can be reviewed by the Medical Coverage Policy Committee (MCPC) and the Quality Improvement Committee (QIC) to determine if a modification of the policy is in order.

1. Platz T, Gillner A, Borgwaldt N, Kroll S and Roschka S. Device-training for individuals with thoracic and lumbar spinal cord injury using a powered exoskeleton for technically assisted mobility: achievements and user satisfaction. Biomed Res Int. 2016;2016:8459018
2. Yang A, Asselin P, Knezevic S, Kornfeld S and Spungen AM. Assessment of in-hospital walking velocity and level of assistance in a powered exoskeleton in persons with spinal cord. Top Spinal Cord Inj Rehabil. 2015;Spring;21(2):100-109.
3. Local Coverage Determination L34821: Transcutaneous Electrical Joint Stimulation Devices (TEJSD)
4. National Coverage Determination 160.12